

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

1. (Currently Amended) A method for the controlled separation of a dispersion of an aqueous solution and organic solution, formed in the mixing section of an extraction step during metal recovery, ~~into their own~~ separated aqueous and organic solution phases ~~during metal recovery~~ in the separation section of a liquid-liquid extraction process, the method comprising:
  - a) feeding the dispersion into the separation section having a front end, a rear space, two sidewalls, and a longitudinal axis between the front end and the rear space and between the sidewalls;
  - b) conducting the fed dispersion into an outward flow field of said separation section, which outward flow field is formed by means of a partition wall in the separation section;
  - c) causing the separated aqueous and organic solution phases of the fed dispersion to flow substantially in the a direction of the longitudinal axis of the separation section;
  - d) damming up of the dispersion flow remaining ~~in the middle of~~ between the separated aqueous and organic solution phases by means of at least one reversing element placed in the rear part of the outward flow field extending from the sidewall of the separation section to the partition wall, the reversing element

comprising at least two a first and a second plate-like components, between which there is a reversing channel;

e) turning the direction of flow of the dispersion substantially to a vertical flow;

f) reversing by means of the at least one reversing element the direction of flow of the dispersion and separated solution phases in the rear space of the separation section in substantially the opposite direction;

g) returning the dispersion and separated solution phases in the return flow field towards the feed end of the separation section; and

h) removing the separated solutions from the separation section.

2. (Currently Amended) The method according to claim 1, wherein ~~by means of a picket fence, further comprising causing~~ the direction of flow of the dispersion and separated solution phases in the return flow field of the returning step ~~is caused to be parallel with the longitudinal axis of the separation section~~ via a picket fence.

3. (Currently Amended) The method according to claim 1 wherein the ~~either or both of the outward flow fields and the return flow fields have a~~ cross-section of the flow fields that decreases constantly in the direction of flow.

4. (Currently Amended) The method according to claim 1, wherein the length of the partition wall has a length that is 85 - 95% of the ~~a~~ length of the ~~settler~~ separation section.

5. (Currently Amended) The method according to claim 1, wherein the upper edge of a first plate-like component of the reversing element, ~~the~~ comprises an underflow plate, which extends into the separated organic solution phase and comprises an upper part having the organic solution flows through a slotted zone through which a portion of said organic solution phase flows arranged in the upper part of the plate-like component into the rear space of the separation section as several sub-flows sub-flows.
6. (Currently Amended) The method according to claim 5, wherein the number of sub-flows number is ~~is~~ 10 - 100.
7. (Currently Amended) The method according to claim 1, wherein the damming up of the dispersion flow by ~~means of the first plate-like part~~ component of the reversing element causes the dispersion to flow under a lower edge of the first plate-like component and into the reversing channel, from under the first plate-like part.
8. (Currently Amended) The method according to claim 7~~4~~, wherein the dispersion that has flowed to into the reversing element channel flows over an upper edge of the second plate-like component and into the rear space of the separation section after the reversing element from above the last plate-like component of said reversing element.

9. (Currently Amended) The method according to claim 1, wherein the metal recovered is recovery comprises recovery of one of or more of the metals copper, uranium, cobalt, nickel, zinc or molybdenum.

10. (Currently Amended) ~~Equipment~~ A liquid-liquid extraction settler for a controlled separation of a dispersion of aqueous solution and organic solution formed ~~during metal recovery in a mixing section into their own~~ separated aqueous and organic solution phases ~~during metal recovery in a liquid-liquid extraction settler, comprising comprising:~~  
a mixing section; and  
a separation section, comprising:

a feed end;

a rear end;

two sidewalls;

wherein said separation section has a longitudinal axis extending from the feed end to the rear end between the two sidewalls;

a bottom; and

a headboxes of for each of the separated aqueous and organic solutions; and

a solid partition wall extending from the front end toward the rear end between the two sidewalls of the separation section and dividing the settler separation section into two sections, substantially parallel to the sidewalls of the settler, where said partition divides the settler into comprising an outward flow field and a return flow field;  
and further comprising

a reversing element which is disposed in the outward flow field near the rear end of the separation section and extends transversely relative to the longitudinal axis of the separation section in the outward flow field from one of the two sidewalls to the an end of the solid partition wall ~~located crosswise in relation to the longitudinal axis of the settler, said reversing element~~ and comprising of at least two a first reverser plates and a second reverser plate situated at different heights and having a reversing channel between them.

11. (Currently Amended) The equipment settler according to claim 10, further comprising a picket fence located at the a front end of the return flow field in the rear part end of the settler separation section, which is fastened at ~~one end to the~~ a first end at an end of the solid partition wall, and at its other end a second end which is fastened to the back of the a sidewall near the rear end of the separation section, or to the a corner formed by of the sidewall and the rear end of the separation section.

12. (Currently Amended) The equipment settler according to claim 11, further comprising guiding plates situated behind the one or more slots in the picket fence to reverse the flow.

13. (Currently Amended) The equipment settler according to claim 10, wherein the length of the partition wall has a length that is 85 - 95% the a length of the settler separation section.

14. (Currently Amended) The equipment ~~settler~~ according to claim 10, wherein the solid partition wall forms an angle of 5 - 150° with the longitudinal axis of the separation section ~~settler~~, ~~so such~~ that the cross-section of the outward flow field, the return flow field, or both ~~flow fields~~ formed by the partition wall decreases in the direction of flow.

15. (Currently Amended) The equipment ~~settler~~ according to claim 10, wherein the first reverser plate of the reversing element, ~~the~~ comprises an underflow plate, ~~is~~ located at a height above a height of ~~higher than~~ the second reverser plate, ~~the~~ which comprises an overflow plate.

16. (Currently Amended) The equipment ~~settler~~ according to claim 10, wherein the upper edge of the first reverser plate comprises an upper edge ~~is~~ located inside a layer of the organic solution in the separation section during operation ~~in the settler~~.

17. (Currently Amended) The equipment ~~settler~~ according to claim 10, wherein the first reverser plate has a lower edge disposed at a distance of the lower edge of ~~the first reverser plate from the bottom of the separation section that~~ ~~settler~~ is 15 - 30 % of a height of the solution height of ~~in the settler~~ separation section.

18. (Currently Amended) The equipment ~~settler~~ according to claim 10, wherein the first and second reverser plates are mainly solid.

19. (Currently Amended) The equipment settler according to claim 10, wherein said first reverser plate comprises an upper edge and ~~further comprising a slotted zone formed in the upper edge~~ over of the first reverser plate of a distance corresponding to 5 - 25 % of the height of the first reverser plate ~~in question~~.

20. (Currently Amended) The equipment settler according to claim 10, wherein said first reverser plate comprises a lower edge and a slotted zone is formed in the lower edge over of the first reverser plate of a distance corresponding to 5 - 15 % of the height of the first reverser plate ~~in question~~.

21. (Currently Amended) The equipment settler according to claim 10, wherein said second reverser plate comprises an upper edge and ~~further comprising a slotted zone formed in the upper edge~~ over of the second reverser plate, the overflow plate of a distance corresponding to 5 - 15 % of the height of the second reverser plate ~~in question~~.

22. (Currently Amended) The equipment settler according to claim 10, wherein the second reverser plate comprises a distance of the lower edge of the second reverser plate disposed at a distance from the bottom of the settler separation section that is 3 - 10% of the a height of solution in the separation section height of the settler.

23. (Currently Amended) The equipment settler according to claim 10, wherein the second reverser plate comprises an upper edge of the second reverser plate

that is placed below the surface of the solution, to a distance below a solution surface that is 20 - 40 % of the height of a solution in the separation section height of the settler.

24. (Currently Amended) The equipment settler according to claim 10, wherein the first reverser plate, the second reverser plate, or both are disposed plates of the reversing element are placed in the settler at a an angle of 10 - 30 ° angle to the vertical.

25. (Currently Amended) The equipment settler according to claim 10, wherein the first reverser plate, the second reverser plate, or both, comprise an upper edge of the reverser plates that is inclined towards the feed end of the settler separation section.

26. (Currently Amended) The equipment settler according to claim 10 21, further comprising a solid blocking plate disposed wherein in front of the an upper part of the slotted zone of the second reverser plate of the reversing element there is located a solid blocking plate in the same direction as the reverser plate, and wherein the blocking plate is parallel to the second reverser plate and is vertically adjustable via one or more vertical position of said blocking plate can be changed using its support elements.



27. (Currently Amended) The equipment settler according to claim 10, wherein headboxes of the ~~settler~~ separation section are located in front of the return flow field at the feed end of the ~~settler~~ separation section.

28. (Currently Amended) The equipment settler according to claim 10, wherein the mixing section is located in front of the outward flow field of the ~~settler~~ separation section.

29. (Currently Amended) The equipment settler according to claim 10, wherein the settler further comprises ~~is equipped with a picket fence and/or other regulating elements to control the flow~~ in the outward flow field, the return flow field, or both.